

Le Monnier (Y. R.)

A CASE OF
RESECTION OF ELBOW-JOINT,

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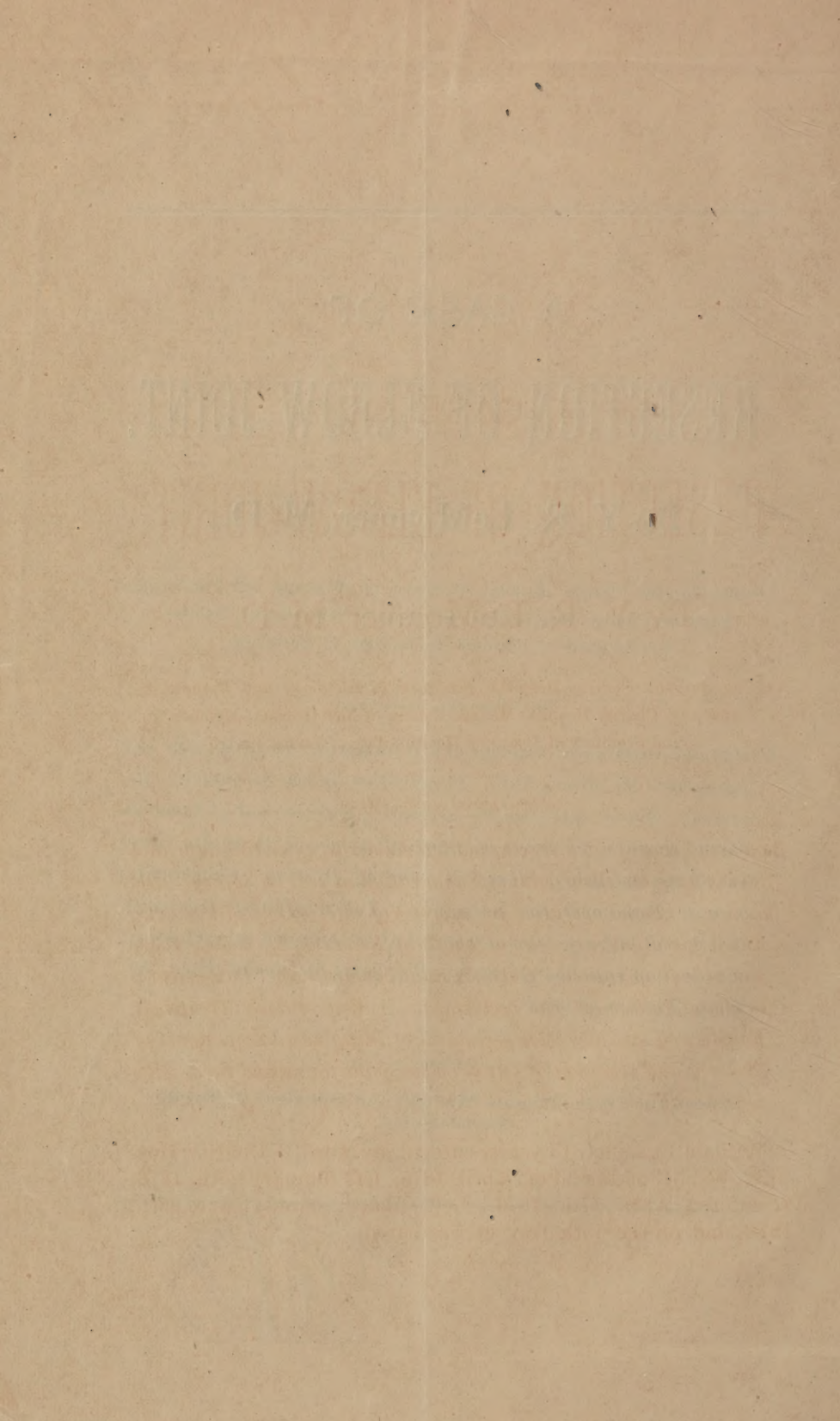
Labor improbus omnia vincit.

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section. Second operation for necrosis of inferior end of humerus.
Third operation for caries of shaft of humerus, 2½ inches above
seat of last operation. Guerin's wadding dressing (Pansement à
la ouate. Pansement par occlusion). Anti-scrifulous Treatment.
Fourth and last operation—removal of invaginated sequestrum of
humerus and resection of (NEW) elbow-joint for second time. Re-
covery with use of joint.*

[From the New Orleans Medical and Surgical Journal.]

November, 1876.





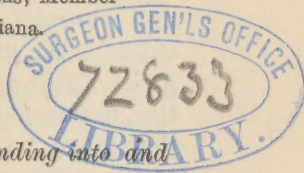
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compliments of the
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William Egan, æt. 13 years, entered my ward, 3, Charity Hos-
pital, bed 34, on the 3d of April, 1875; left January 26th, 1876;
re-entered April 17th, 1876. Left, almost cured, June 28th,
1876, and on the 15th July he was cured.

This patient is a somnambulist. On the 31st of March, 1875, while walking in his sleep, he fell from the gallery into the yard, and, striking upon the external condyle of the left humerus, fractured this bone transversely, at one inch above the condyles. Another fracture extended from this one, vertically downwards, between the two condyles, thereby fracturing the bone in three pieces and laying open the articulation of the elbow. He was brought to the hospital on the 3d of April. When I took charge of the ward on the 6th—three days after—suppuration at the seat of injury existed, with two fistulous openings on the postero-external surface of the arm. Radio-ulnar articulation sound; movements normal and almost painless. I diagnosed a necrosis at seat of injury, and decided upon a resection of elbow-joint. On April 10th, surgical ischemia being obtained, by Esmarch's method, a longitudinal incision was carried, on the postero-external surface of the arm, extending above and below the elbow-joint, about four inches in length. The radio-ulnar articulation was found uninjured. As much of the inferior extremity of the humerus (three inches) was removed as was found necrosed or denuded of its periosteum, preserving the latter wherever it existed. During the operation all arteries and nerves were respected. The operation over, the wound was plugged with lint (charpie), dressed and washed every day with hydrate of chloral wash ($2\frac{1}{2}$ grains to the ounce), and the best nourishment given. Things progressed with satisfaction. An immense quantity, in fact too much, of new bone formed; so much so, that on the 15th of August the hollow left by the removal of three inches of the inferior extremity of the humerus was filled by bone of new formation, and the arm ankylosed at right angle. On the 26th of April, accumulation of pus at the inferior extremity of the humerus, concomitant with an œdematous condition of the arm, forced me to make an incision here, and pass a drainage tube through the cloacum. On the 17th of May the arm was quite swollen, and an abscess forming on the postero-internal surface of arm. R—Poultices to the parts. On the 21st I lanced the abscess, which gave issue to eight ounces of pus. The arm was quite swollen and œdematous. I diagnosed a necrosis, passed two drainage tubes through the parts, and instituted an expectant treatment, nourishment ad libitum, and exercise in the yards of the hospital. June 23d, chloroformed patient and removed one and a half inches of the inferior extremity of the humerus,

which was necrosed and invaginated in the newly-formed bony tissue. Things improved for some time, the patient's arm being dressed every day or two with charpie soaked with the solution of hydrate of chloral. During this time he was submitted to the following anti-scorfulous treatment: comp. tinct. cinch. ℥vi. , sulphate iron grs. vi., sulph. quinine ʒss. , sulph. acid q. s. M. S. A. S. Tablespoonful three times a day. The arm suppurated more or less when, during the latter part of July, an œdematous condition again called my attention to the probability of an affection of the bone, though I could detect nothing with my probe. About the 10th of August, not only my probe detected denuded bone, but easily penetrated into the shaft of the humerus—caries—at about its centre, on its postero-internal side. On the 12th, the patient being chloroformed, surgical ischemia obtained, an incision three inches long was carried down on the internal surface of the arm, where the caries existed, at the junction of its upper and middle third. The periosteum was carefully and gently pushed aside, and the carious portion of the bone very easily scraped off. The caries was in the shaft of the humerus, extending $2\frac{1}{2}$ inches in length by $\frac{3}{4}$ inch in width at its largest place. As I ascended the shaft it extended deeper and deeper, finally invading the whole thickness of the bone, leaving the marrow, inflamed, exposed and of a deep claret hue. At the bend of the elbow was another carious spot, which I also scraped off. The shaft of the humerus bled freely, when the circulation of the arm was reëstablished, completely saturating the dressing with blood. I now had two wounds, one at the elbow and one in the shaft of the humerus. In order to obviate an excess of suppuration, and to compare the two modes of dressing, in the same case, I plugged the wounds with wadding soaked in carbolized oil (1 part to 6), and applied the dressing by occlusion (*pansement à la ouate d'Alph. Guérin*), thereby protecting the wounds *from the contact of the atmosphere and rendering the dressings less frequent.*

This dressing consists in surrounding a limb with sheets of carded cotton, fifteen to thirty or more, and binding them down very tightly with rolls of bandages. If the dressing be well applied, the contact of the atmosphere with the wound will be prevented, and suppuration thereby lessened. This renders the renewal of the dressings less frequent. Besides it has many other advantages, which it is not my province here to mention.

Vide Bulletin de l'Académie de Médecine de Paris, pages 1029, et. seq., 1875.

On the morning of the 13th, the day after the operation, the boy was without fever and going about the hospital.

On the 15th the dressing was removed for the first time since the operation, i. e., on the commencement of the fourth day. It was removed that early on account of the commencing offensive smell of the blood that had permeated through the dressing at the time of the operation. There was not over an ounce of suppuration, which was from the elbow. The wound of the humerus was doing so very well that I did not remove the plugging. I reapplied the dressing and continued the ferrated cinchona and quinine treatment and best nourishment.

On the 21st, bandage removed. Wounds doing very well. Bones and soft parts granulating kindly. Very little suppuration from wound of humerus, but that of the elbow had suppurated freely. The wounds were washed with alcoholized water (spirits of camphor and water), and the dressing reapplied.

On the 30th the bandage was again removed. The suppuration was scanty. The wounds were healing kindly, and the bony surfaces seemed covered over with healthy granulations. Same treatment and dressing.

On September 4th the wounds were doing well, but a carious spot of the shaft of the humerus was detected. The internal treatment was altered to cod-liver oil and comp. tinct. cinch. aa ζ ij., sulph. iron grs. vj. M. Tablespoonful every 3 hours. Same dressing.

On September 10th the dressing was removed, and substituted by a simple dressing of dry charpie, and the necrosis of the humerus was daily watched. The wounds had improved; they were washed, every day or two, with alcoholized water. General treatment continued.

On October 15th he had improved steadily but slowly, and left the hospital to come to my office consultations. From this time out, I again instituted the expectant treatment, and continued the internal one, with the hope that nature would eliminate the necrosis. On the 25th of January, 1876, I saw him for the last time that winter. He was then very fat and used his arm freely. Two fistules existed, leading to necrosed bones.

Act Second. On the 17th of April, 1876, he again presented

himself at my clinic, at the Charity Hospital. His general health was much improved under the anti-scorfulous treatment, which he had followed with more or less regularity. On the internal surface of the arm, where the shaft of the humerus had been scraped, three fistules existed, leading to a loose bone. Satisfied that this sequestrum was invaginated in the shaft of the humerus, and could not be eliminated by the sole efforts of nature, I decided upon an operation for its removal. The patient chloroformed, and surgical ischemia obtained, I made an incision $3\frac{1}{2}$ inches in length, on the tract of the fistules. The healthy, newly-formed bone was easily removed, as is generally the case in young proliferated bony tissue, and in the canal of the humerus a loose sequestrum, $2\frac{1}{4}$ inches long by $\frac{2}{3}$ inch wide, was picked up with the forceps. I then concluded to *reestablish if possible the movements of the elbow-joint*, which the patient had allowed to become almost completely ankylosed, at an angle of 65 (?) degrees. For this I made a crucial incision at the posterior and exterior surface of the elbow-joint, in the cicatrix of the former incision. With *difficulty* I removed all the bony and ligamentous tissue around the heads of the ulna and radius, which had caused the ankylosis. This was new bone, a year old, and hard, which had proliferated from the periosteum of the humerus, which (periosteum) I had carefully preserved last year while removing the condyles of the humerus. An examination of this new osseous growth showed that, in its proliferation, it had adapted itself to the eminences at the head of the ulna, so as to form a joint somewhat similar to the normal one. The radio-ulnar articulation I did not open, but satisfied myself of its integrity and physiological functions. After the removal of this newly proliferated bone, the arm could be extended almost to its full extent, to an angle of 80 degrees, and bent *ut supra*. The periosteum throughout was preserved. The operation over, the angles of the wound were sewed up, to obtain if possible union by first intention. The cavity, which was a bony one, was plugged with dry charpie. No disinfection of any kind nor any styptics were used. I am opposed to the use of styptics, as the salts of iron, which only dirties wounds, and retards somewhat the appearance of granulations, by the eschar which it forms. The best hemostatic, in my opinion, is the natural coagulation of the blood by the action of the air, and the contracting effect it (the air) has on the small blood-vessels. As to disinfections, as a general rule

they are useless in this, the climate of our beautiful Louisiana. The operation was bloodless. The gutta-percha ligature was then removed, and the blood allowed to flow back into its emptied vessels, and in order to diminish the shock of the heart's systole, I compressed with the hand the brachial artery, allowing the blood to flow by degrees. With the other hand I held tightly the charpie in the wounds. The patient then lost about five ounces of blood. After treatment: the arm and elbow were next encircled with a sufficient amount of bandages to keep the lint in the wound. The effects of chloroform over, the patient complaining, a third of a grain of sulphate of morphia was injected under the skin of the right arm, which gave instant relief. He was put to bed, and syrup of sulphate of morphia (gr. j. to $\bar{3}$ j.) ordered, p. r. n., to relieve pain. On the 18th he had a little fever, and had passed a good night. The bandage was bloody and dry. Five grains, three times a day, of sulph. quinine were ordered and best nourishment ad libitum. 18th—Bandage removed and wounds washed. Some tumefaction of arm and elbow; no fever; wounds doing well. R—Cod-liver oil, comp. tinct. cinchona, aa $\bar{3}$ iv.; sulph. iron, grs. viij. \mathfrak{M} . By tablespoonfuls four times a day. Nourishment ad libitum. Under this treatment he improved steadily and slowly, the wounds being dressed p. r. n. with charpie and simple cerate, and washed with alcoholized water. The patient was watched and made to keep up the movements of the joint during the healing process, in order to prevent ankylosis. On the 5th of June a piece of bone, the size of a pea, was removed, and on the 20th the wounds were almost healed. Another necrosis existed, which would either be eliminated or have to be removed. The general and local treatment were continued. There seemed to be then but little movement in the joint. On the 28th of June he left the hospital, though not yet cured, promising to continue his antiscrofulous treatment and report to me from time to time. The arm seemed to be ankylosing at an angle of about 70° . I again reminded him of the importance of a free use of the joint, if he did not wish to have a stiff arm, after which we parted. I saw him no more until a fortnight ago, when he called on me to show me his arm, which was cured since the 15th of July, the day on which the wound was completely healed. To-day—October 6th, 1876, by a free and proper use of the joint, he has improved wonderfully. On the 20th of June there seemed to be but little

movement in the joint; so much so, that I entertained fears of an ankylosis. To-day he can extend the arm to its full length and bends it to an angle of 60° . In strength it is almost, if not altogether, equal to the sound one. He easily picks up a bucket (3 gallons) of water, and uses indifferently the one or the other arm. The operated arm is about three inches shorter than the sound one. At the elbow-joint, so great has been the proliferation of new osseous tissue, that this elbow is larger than the sound one. His general health is excellent.

28 Conti Street, New Orleans, La., October 6th, 1876.

